

Process for priming plastic substrates, coating compositions for this purpose, and the use thereof

Description of Technology: The invention relates to the painting, in particular priming, of plastic substrates, in particular polypropylene substrates. It is particularly suitable for the painting of motor vehicle parts made of plastics, in particular polypropylene.

Patent Listing:

1. **US Patent No. 5,399,383**, March 21, 1995, "Process for priming plastic substrates, coating compositions for this purpose, and the use thereof."

<http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetacgi%2FPTO%2Fsearch-bool.html&r=1&f=G&d=50&co1=AND&d=PTXT&s1=5399383.PN.&OS=PN/5399383&RS=PN/5399383>

Market Potential: Plastic parts are becoming increasingly widespread in industry. They are used alone or alternatively together with other parts. In order to produce a good and visually uniform surface, it is frequently necessary to coat these parts with a paint. The paint has a number of tasks here. On the one hand, it serves to give the substrate a uniform surface, possibly not differing from the surface of adjacent parts comprising another substrate. In addition, the coating protects the surface against environmental influences, for example moisture or rain, i.e. the weathering resistance is improved. This results in a longer service life of the parts. It is furthermore possible for certain properties to be affected in a targeted manner by the coating, for example the surface slip or electrical conductivity of plastic parts.

In order to ensure these properties, it is necessary for the coating to adhere firmly to the substrate. In particular in the case of mechanical load, the paint must not come off the surface of the plastic part. It must also be ensured that the mechanical properties of the plastic part are still adequate after painting. Finishes on plastic substrates usually have a clearly adverse effect on the mechanical stability of the plastic parts. This is particularly true at low temperatures. The problem is discussed, for example, in "Farbe+Lack", No. 5 (1988), p. 337, and in "defazet", No. 2 (1979), p. 59.

In order to achieve good adhesion, the known primers have high solvent contents. The solids content of the coating compositions is between 2 and 30%.

Benefits:

- Improved resistance against weather.
- Can provide a uniform surface when compared with adjacent parts (in a car).
- Longer service life of car parts with the coating.

Applications:

- Car parts made of plastics
- Plastic products that require paint

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